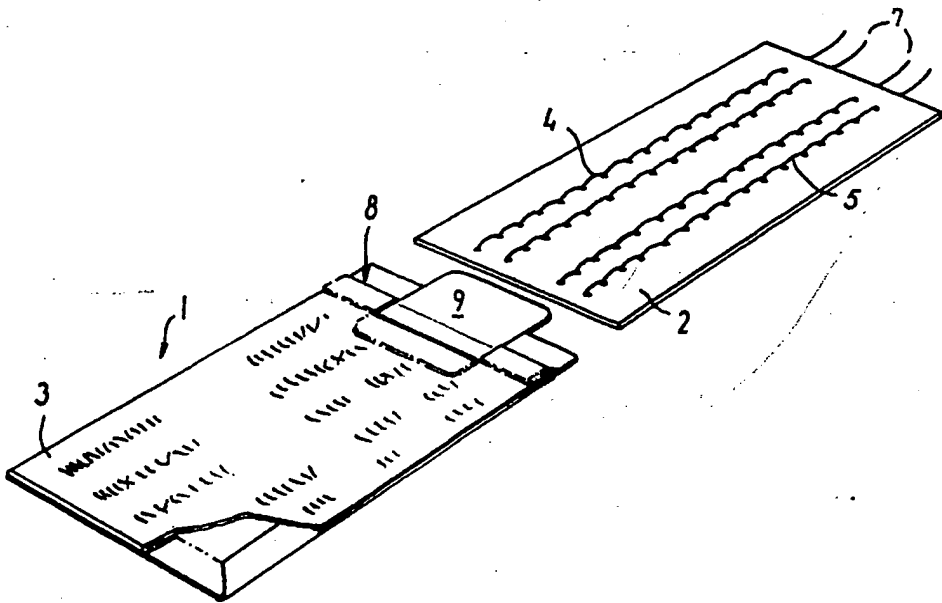


## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/DK98/00190 <b>(22) International Filing Date:</b> 14 May 1998 (14.05.98) <b>(30) Priority Data:</b> 0572/97                      16 May 1997 (16.05.97)                      DK <b>(71)(72) Applicant and Inventor:</b> WOLLESEN, Francis, Morten [DK/DK]; Herluf Trollesgade 9, 5.th, DK-1052 Copenhagen K (DK). <b>(74) Agent:</b> HOLME, Edvard; Holme Patent a/s, Vesterbrogade 20, 1620 Copenhagen V (DK).		<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>In English translation (filed in Danish).</i>
<b>(54) Title:</b> A DENTAL FLOSS PACKAGE   <b>(57) Abstract</b> <p>A package (1) containing dental floss for cleaning teeth comprising a mounting plate (2) for detachable mounting of a number of pre-cut lengths of dental floss filaments (4) and an envelope (3) for carrying the mounting plate. The package can be piled in the same way as toothpicks on the tables at a restaurant so that dental floss now also is available to guests. The package is furthermore a valuable advertising tool for goods and services.</p>		

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A dental floss package

The invention relates to a package containing dental floss for  
5 cleaning teeth.

At good restaurants, toothpicks are normally set on the table at  
the free disposal of the guests. In the same way, toothpicks are  
put on the trays used for serving the passengers on a plane. A  
10 toothpick is sufficiently big in order to be visible and  
distinguished from everything else normally on the tray.

However, many people also use dental floss. Dental floss must  
necessarily be thin in order to be able to pass between the  
15 teeth, and a passenger on a plane will therefore have problems  
identifying and finding a filament of dental floss on his tray.  
Furthermore, the lack of shape permanence and the insignificant  
transverse size of the filaments mean that they cannot be piled  
in a container on a table in e.g. a restaurant in the same way  
20 as toothpicks.

Dental floss is conventionally packaged in a roll containing  
filament for many tooth-cleanings. The roll is put in a cassette  
with a knife edge for cutting an adequate length of dental floss  
25 when required.

A guest can relatively unnoticed permit himself to take a  
toothpick from the container on the table. It would attract much  
more attention if a guest wanting a filament of dental floss had  
30 to take the dental floss cassette in one hand and with the other  
cut himself a dental floss segment from dental floss supply on  
the roll. Therefore, dental floss is normally not available to  
guests at restaurants and other catering establishments.

35 On a plane, the relatively small trays used for serving would in  
fact not have room for a dental floss cassette. Furthermore,  
each passenger does not need the several metres of dental floss  
normally contained in a dental floss cassette.

The use of toothpicks is normally accepted as they can be used discretely and without causing offence. Conversely, the use of dental floss can seem repellent and unpleasant to involuntary spectators e.g. on a packed plane, and dental floss users will therefore often prefer to do this operation somewhere else where the tooth-cleaning can take place more privately. The dislike to other people's undisguised use of dental floss furthermore means that many people do not wish to display the fact that they actually floss.

The object of the invention is to provide a packing of the kind mentioned in the opening paragraph for packaging a number of pre-cut lengths of dental floss.

A second object of the invention is to provide a packing with an imprinted message with no reference to its content of dental floss and the usage of the latter.

A third object of the invention is to provide a packing that can be kept in a wallet or the like.

The novel and unique features according to the invention are the fact that the package comprises a mounting plate for detachably mounting a number of pre-cut lengths of dental floss and a envelope for carrying the mounting plate. This package can be dimensioned to such a size that it can find room on a tray on a plane and also be easily identified and found. Furthermore, the package can discretely be picked up for later use without attracting attention. The same goes for restaurants where the packages can be piled in containers on the tables in the same way as the toothpicks. By means of the invention, easily accessible dental floss will now also be available to the guests.

As mentioned earlier many do not want other people to know that they are users of dental floss. In order to avoid this the package can have a neutral appearance which, in an advantageous embodiment, can be obtained by imprinting a message on the envelope, which does not refer to the its content of dental

floss. The message can for example be a logo, an advertisement, or information about e.g. flight departures and similar events whereby the package will become a valuable advertising tool for goods and services. Many firms will therefore find it profitable to use the packages for advertising purposes with the advantage of the advertisement also being a useful gift.

The two sides of the envelope will be especially suitable as background for imprinting an elegant, attractive advertisement when the envelope is made of coated cardboard. Furthermore, the package will be given a hygienically and clinically correct appearance.

The package, which in this way also performs an advertising task, can advantageously be the size of a credit card. Thereby, the user can discretely carry a package between the credit cards in e.g. a wallet. If the firms design their advertisement in such a way that the logo is placed at the top right-hand corner on both sides of the package, the user will inadvertently fix the logo in his mind when searching through the credit cards in the wallet. Thereby, the advertising value of the package will last longer than usual and with optimum effect.

In principle, the mounting plate can be made of any material suitable for detachable mounting of the dental floss filaments. However, a simple, inexpensive package is obtained when the mounting plate is made of cardboard and the filaments are sewn onto the cardboard without under thread.

The filaments can be sewn onto the cardboard in any desirable pattern, for example zigzag. In an advantageous embodiment, the stitches are however put in parallel lines.

For the insertion of the mounting plate, the envelope can have an opening extending across the length of the filaments, and the envelope can furthermore be provided with a flap for closing the opening by folding.

When the dental floss in a closed package is to be used, the opening must be opened in order to get hold of the end of a filament and pull it out of the package. If the package is opened in its full width, the mounting plate could be pulled  
5 along. In order to eliminate this possibility, the flap can advantageously be provided with transverse line of fractures defining a central part of same or slightly larger width than the distance between the two extreme filaments on the mounting plate. By tearing on the line of fractures and opening the  
10 central part of the flap, the user obtains access via the now clear central part of the opening and can supply himself with one or more dental floss filaments of the package. During this, the two unopened extreme parts of the flap function as a stop for preventing the mounting plate from being pulled out of the  
15 envelope.

A single package can, depending on its size, contain several pre-cut lengths of dental floss but for the application purposes mentioned earlier, a package containing filaments for a limited  
20 number of tooth-cleanings would be most appropriate. The package can e.g. contain between one and eight filaments, preferably between two and six filaments, and especially between three and five filaments.

25 The invention will be explained in detail below, describing only exemplary embodiments with reference to the drawing, in which

Fig. 1 is an exploded perspective view of a package according to the invention,  
30

Fig. 2 is on a larger scale a fractional perspective view of the mounting plate in fig. 1 with detachably mounted dental floss filaments,

35 Fig. 3 is a perspective view of the package in fig. 1 in closed condition, and

Fig. 4 is the same but in open condition and a user is pulling a dental floss filament out of the package with his fingers.

In the figures, reference numeral 1 indicates generally the package according to the invention, and this is comprised of a mounting plate 2 of, in this example, board and an envelope 3 of coated board.

5

As will be seen best from fig. 2, a total of four dental floss filaments 4 are, in separate lines, led in loops 5 through holes 6 in the mounting plate 3. In practice, this process takes place by sewing the filaments onto the cardboard plate without an under thread. A piece of dental floss can typically have a length of about 50 cm while the length of a package, for practical reasons, should not exceed about 8 cm. In consequence of that the filament is wound in loops through the mounting plate, this plate can nevertheless contain a filament which is about ten times as long. Each filament has a free end 7 on which the user, as shown in fig. 4, can take hold when the filament is to be pulled out of the package.

In fig. 1, all four filaments are sewn onto the mounting plate 3 and the plate is ready to be inserted into the envelope through an opening 8 in one of the ends of the envelope. In fig. 3, the package is now assembled with the mounting plate inside the envelope and the filaments pointing towards the opening 8 which is closed by a flap 9 folded round the opening and joined with the top side of the envelope by means of e.g. bonding or welding.

Two transverse lines of fractures 14 in the shape of perforations are made on the flap 9 as shown in fig. 3. They define a central part 10 on the flap and a side part 11 on each side of the central part. Furthermore, the central part has the same or a slightly larger width than the distance between the two extreme lines of filaments shown in fig. 1. The user can now obtain access to the dental floss filaments by opening the central part of the flap breaking the perforations during this. This process is illustrated in fig. 4 where it can be seen that the user with his fingers 12 holds the end 7 of a dental floss filament 4 and is now pulling it out of the package.

Obviously, the pulling on the filament also exerts a pull on the mounting plate which however is stopped by the two side parts 11 still joined with the top side of the envelope. When the user has taken the wanted filament, the package is reclosed by  
5 folding the central part back into the closed position. The package can now be kept until the next time the user needs a filament of dental floss.

In order to carry the package in an expedient way, it is of the  
10 size of a credit card, i.e. about 84 x 54 mm. The package can then be kept together with the user's credit cards in e.g. a wallet.

Many do not want other people to know that they are users of  
15 dental floss. The neutral appearance of the package is therefore an advantage, as it does not directly give away its content of dental floss.

The neutral appearance is advantageously obtained by imprinting  
20 messages not relating to dental floss on the sides of the package. The messages can for example be logos, advertisements in general, or flight or train schedules.



C l a i m s

1. A package (1) containing dental floss (4) for cleaning teeth, **characterised** in that it comprises a mounting plate (2) for detachably mounting a number of pre-cut lengths of dental floss (4) and an envelope (3) for carrying the mounting plate (2).
2. A package (1) according to claim 1, **characterised** in that the mounting plate (2) is made of a relatively soft material, such as cardboard, and that the dental floss filaments (4) are detachably mounted on the plate (2) by sewing without an under thread or in a similar way.
3. A package (1) according to claim 1 or 2, **characterised** in that the dental floss filaments (4) are detachably mounted on the mounting plate (2) in preferably parallel lines.
4. A package (1) according to claim 1, 2, or 3, **characterised** in that the package (1) contain between one and eight filaments (4) , preferably between two and six filaments (4), and especially between three and five filaments (4).
5. A package (1) according to each of the claims 1 - 4, **characterised** in that the envelope (3) is the size of typically a credit card.
6. A package (1) according to each of the claims 1 - 5, **characterised** in that messages (13) with no reference to the primary purpose of the package (1) are imprinted on one or both sides of the envelope (3).
7. A package(1) according to claim 6, **characterised** in that the messages (13) are logos, advertisements, or information.
8. A package (1) according to each of the claims 1 - 7, **characterised** in that the envelope (3) is made of coated cardboard.

9. A package (1) according to each of the claims 1 - 8,  
**characterised** in that the envelope (3) has an opening (8)  
extending across the filaments (4) on an inserted mounting  
plate (2), and a folding flap (9) for closing the envelope  
(3).

10. A package (1) according to claim 9, characterised in that  
two line of fractures (14) are made across the flap (9) for  
defining and opening a central part (10) on the flap (9),  
and that this central part (10) has the same or a slightly  
larger width than the distance between the extreme  
filaments (4) on the mounting plate (2).

1/2

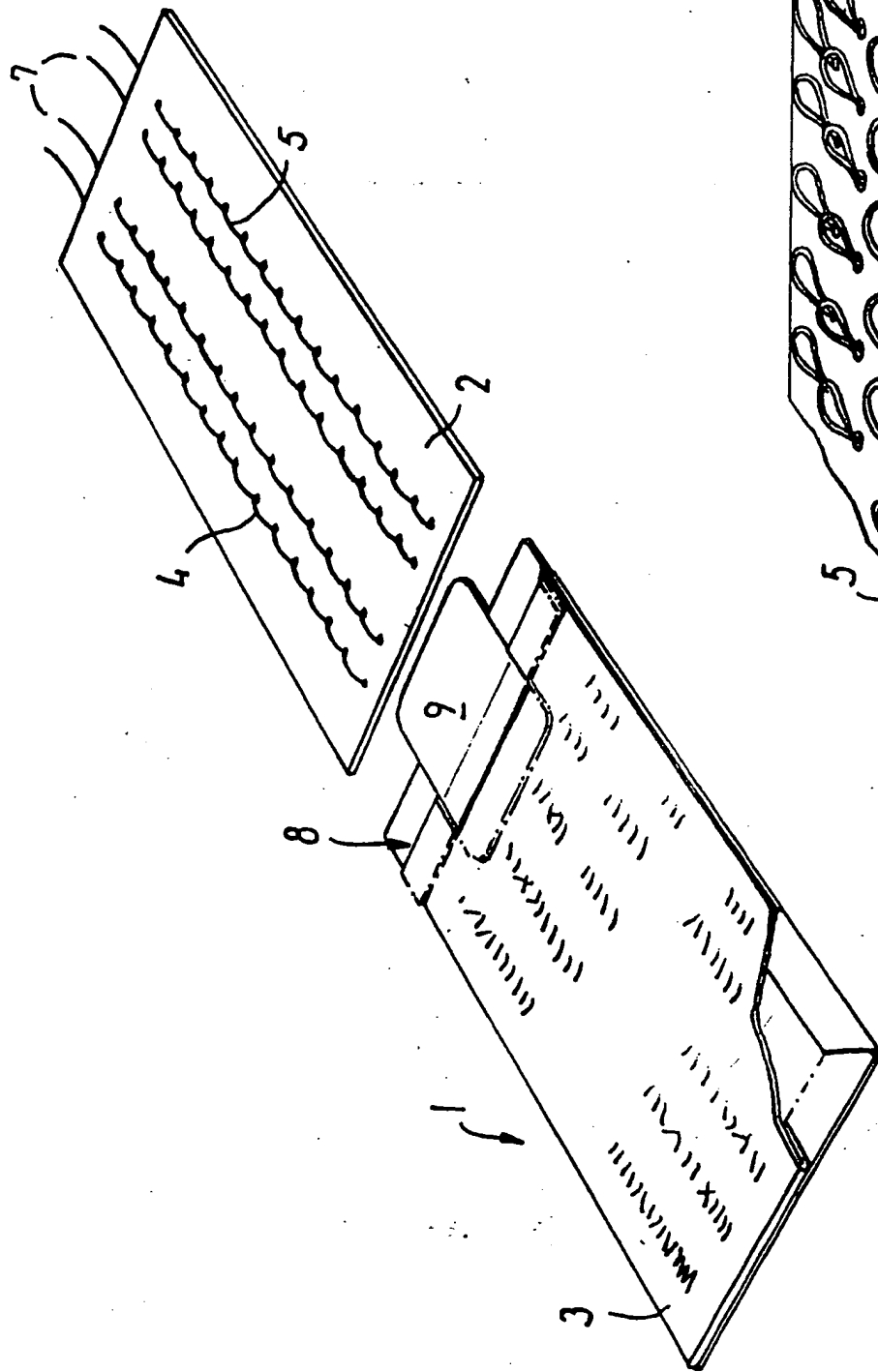


FIG. 1

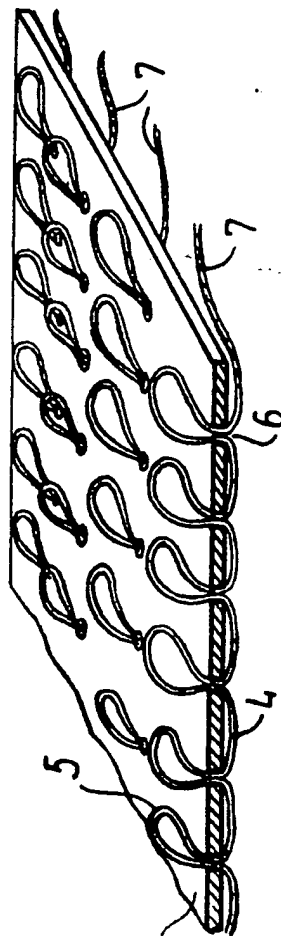


FIG. 2

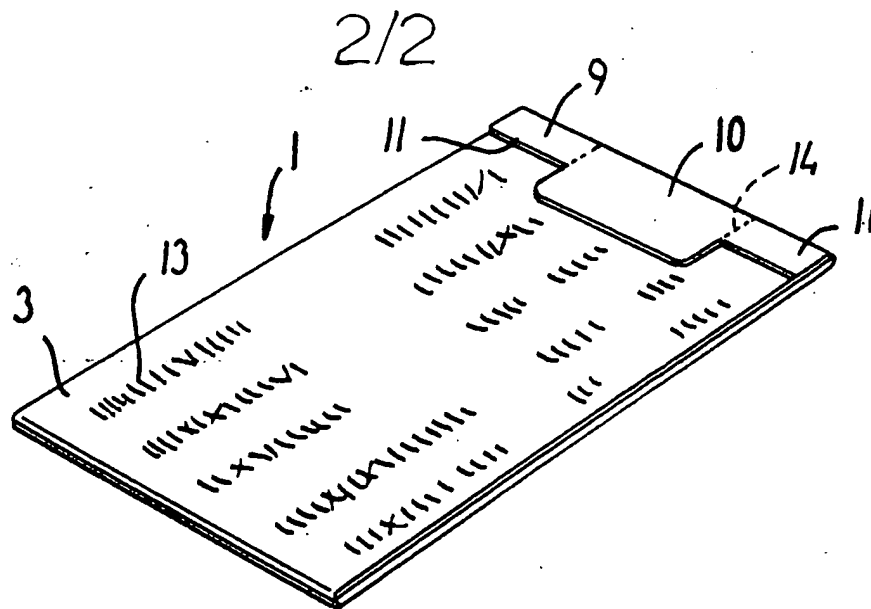


FIG. 3

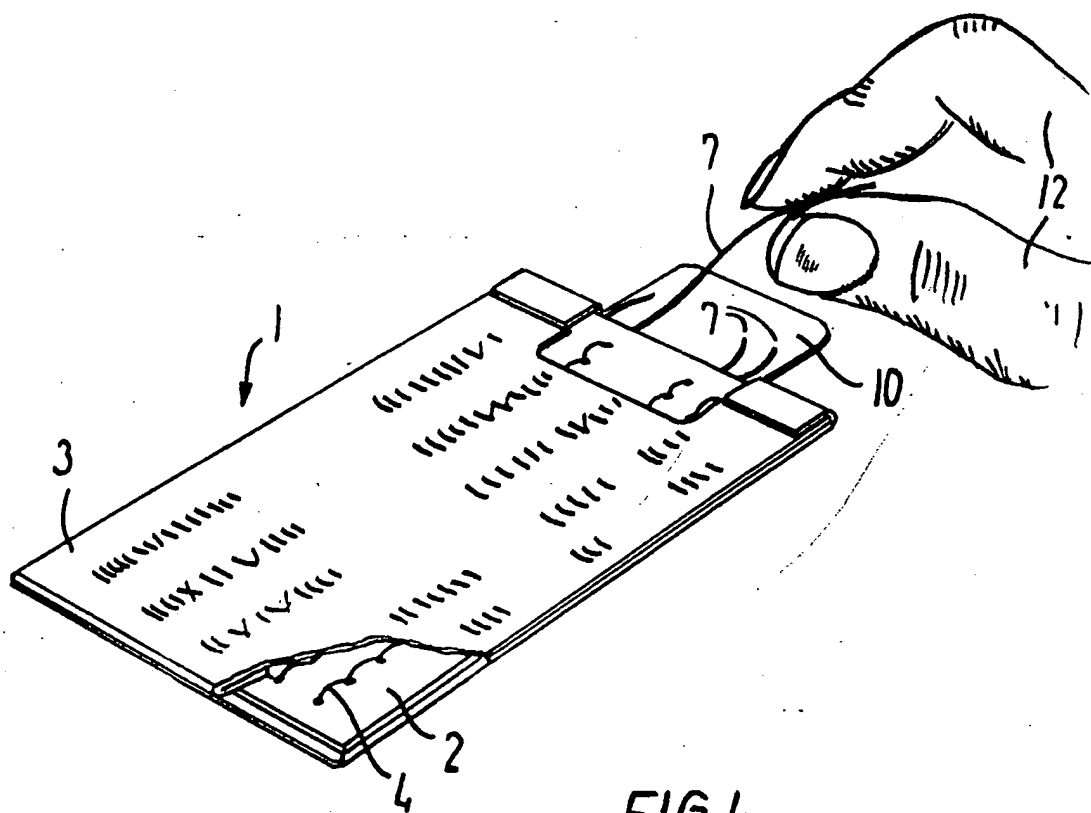


FIG. 4

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/DK 98/00190

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A61C 15/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5566692 A (THOMAS E. THORNTON), 22 October 1996 (22.10.96) --	1-10
A	US 5320117 A (RICHARD J. LAZZARA ET AL), 14 June 1994 (14.06.94), column 3, line 5 - line 9, figure 5 --	1-4
A	US 4327755 A (ROBERT A. ENDELSON), 4 May 1982 (04.05.82), abstract --	5
A	WO 9709943 A1 (W.L. GORE & ASSOCIATES, INC.), 20 March 1997 (20.03.97), page 2, line 18 - line 24; page 4, line 25 - line 28 --	6-8



Further documents are listed in the continuation of Box C.



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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3927686 A (JAMES B. ZAMBITO), 23 December 1975 (23.12.75), column 5, line 38 - line 41, figure 11  -- -----	9-10

# INTERNATIONAL SEARCH REPORT

Information on patent family members

27/07/98

International application No.

PCT/DK 98/00190

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
US	5566692	A	22/10/96	NONE	
US	5320117	A	14/06/94	NONE	
US	4327755	A	04/05/82	AU 555593 B CA 1170224 A EP 0090106 A,B SE 0090106 T3	02/10/86 03/07/84 05/10/83
WO	9709943	A1	20/03/97	AU 682137 B AU 6767796 A EP 0792123 A FI 972038 A IL 120756 D NO 972141 A US 5582194 A	18/09/97 01/04/97 03/09/97 13/05/97 00/00/00 09/05/97 10/12/96
US	3927686	A	23/12/75	NONE	